Claims

1.   A method for determining which of a plurality of switches directly connect to a host, wherein ones of said switches comprise at least one port, comprising the steps of:

(a) generating a database from forwarding table information from plural switches on a subnet;

(b) parsing the database to determine switch connectivity information that may be missing from the database information obtained from a given switch;

(c) determining the ports on which ones of the plurality of switches are connected to the host;

(d) determining the ports on which ones of the plurality of switches are connected to other ones of said plurality of switches;

(e) selecting a first switch of said plurality of switches; and

(f) for said selected switch, determining whether other switches in said plurality of switches are connected to said selected switch on the same port as said selected switch is connected to said host, thereby determining whether said selected switch is directly connected to said host.

2.   The method for determining which of a plurality of switches directly connect to a host according to claim 1, further comprising the steps of:

(g) selecting a next switch;

(h) repeating step (f) and (g) for each of said plurality of switches, thereby determining all switches which are directly connected to said host.

3.   An apparatus for determining which of a plurality of switches on a network directly connect to a host, wherein ones of said switches comprise at least

one port, comprising:

a network interface for connecting with the network and exchanging data therewith;

a processor for generating a database of
5   forwarding information from switches, determining switch interconnectivity for plural ones of switches, determining the ports on which ones of the plurality of switches are connected to the host, and for determining the ports on which ones of the plurality of switches
10   are connected to other ones of said plurality of switches, and for selecting a first switch of said plurality of switches, and for said selected switch, determining whether other switches in said plurality of switches are connected to said selected switch on the
15   same port as said selected switch is connected to said host, thereby determining whether said selected switch is directly connected to said host.

4.   The apparatus for determining which of a
20   plurality of switches directly connect to a host according to claim 3, wherein said processor further selects a next switch and repeats

a) for said selected switch, determining whether other switches in said plurality of switches are
25   connected to said selected switch on the same port as said selected switch is connected to said host, thereby determining whether said selected switch is directly connected to said host, and

b) selecting a next switch,
30   for each of said plurality of switches, thereby determining all switches which are directly connected to said host.

5.   A method for determining in a subnet of an
35   Ethernet local area network of a plurality of switches

whether a selected switch directly connect to a host, wherein ones of said switches comprise at least one port, comprising the steps of:

(a) accessing a forwarding table for each of the
5   plurality of switches in the subnet and building a database of information therefrom;

(b) processing said database to complete switch connectivity information therein;

(c) generating a first table of switch/port/host
10   combinations based on the accessing of the forwarding tables;

(e) searching through said first table to locate all switches that list the host;

(e) generating a second table of switches that
15   list the host; and

(f) for a first switch in said second table, determining whether all other switches in said second table of switches are connected to said first switch on the same port as said first switch is connected to the
20   host, thereby determining whether said first switch is directly connected to said host.

6.   The method for determining in a subnet of an Ethernet local area network of a plurality of switches
25   whether a selected switch directly connect to a host according to claim 5, further comprising the steps of:

(g) for each other switch in said second table, determining whether other switches in said plurality of switches are connected to said each other switch on the
30   same port as said each other switch is connected to the host, thereby determining whether ones of said each other switches are directly connected to said host, and thereby determining all switches which are directly connected to said host.

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7. The method for determining in a subnet of an Ethernet local area network of a plurality of switches whether a selected switch directly connect to a host according to claim 6, wherein the Ethernet local area

5   network comprises a plurality of hosts, further comprising the steps of:

(h) repeating said steps (d)-(g) for ones of the plurality of hosts.

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